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# SORE THROAT.

*With the Compliments of*

Dr. J. Solis Cohen.

By J. Solis Cohen, M. D.,

LECTURER ON LARYNGOSCOPY AND DISEASES OF THE THROAT AND CHEST.

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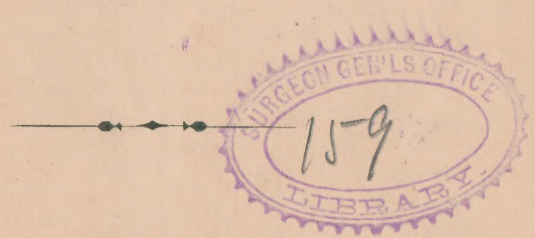


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# SORE THROAT.

## TWO LECTURES,

DELIVERED SEPT. 24TH AND OCT. 1ST, 1874, IN JEFFERSON MEDICAL COLLEGE,

BY J. SOLIS COHEN, M. D.,

LECTURER ON LARYNGOSCOPY AND DISEASES OF THE THROAT AND CHEST.

## LECTURE I.

GENTLEMEN:—In view of the approach of the season at which acute sore throats are prevalent, I propose to devote two lectures to their consideration.

I treat of the acute inflammatory affections of the throat under the general head of SORE THROAT, differentiating those which evince special characteristics. This I do because it is very rare to find any inflammatory affection confined to any one of the anatomical regions of the throat. When the palate is inflamed, for instance, the tonsils and the pharynx may be inflamed also; when the pharynx is inflamed, the palate and tonsils may be inflamed; and when the tonsils are the chief seat of the inflammation we often find the palate and pharynx involved in the process. Hence, therefore, I discard the numerous, and often too vague, *cynanches* and *anginas* by which the different varieties of sore throat have long been designated, as not presenting those definite ideas which should characterize scientific appellations.

SORE THROAT may be acute or chronic; superficial or deep seated; idiopathic, symptomatic, or traumatic.

The ordinary causes of sore throat are:

Sudden or prolonged exposure to inclemency of weather or change of temperature, *i.e.*, "catching cold" when overheated, or becoming overheated after having been chilled; the promiscuous use of hot and cold food and drinks during the same meal; exposure to the inhalation or inspiration of deleterious solid, fluid, and gaseous substances in the atmosphere, which act mechanically or chemically on the mucous membrane; the abuse of certain medicinal agents; exposure to the fumes of tobacco smoke; excessive use of the voice; abuse in the use of condiments and rich food. Several of these causes may co-operate.

### Common Sore Throat.

*Simple inflammatory sore throat, superficial sore throat, erythematous sore throat, catarrhal sore throat; angina simplex, angina catarrhalis, angina erythematosa; pharyngitis simplex, pharyngitis catarrhalis,* etc.

The most frequent variety of acute idiopathic sore throat is a simple erythematous inflammation of the mucous membrane of the palate, anteriorly and posteriorly, with which there is associated, in most cases, more or less similar inflammation of the mucous membrane of the tonsils and the pharynx; the mucous membrane of the mouth remaining normal. The symptoms of the affection are very trifling in mild cases; so much so, at times, as to attract but little attention. In cases of moderate severity the mucous membrane of the palate, tonsils and pharynx is congested, uniformly or in patches, and is often swollen; the submucous tissue of the pharynx being, in some cases, greatly relaxed, so that the mucous membrane lies upon the sub-structures in thick folds; at other times

it is more or less œdematous. Sometimes some of the mucous follicles are enlarged; most frequently those of the palatine arches, especially the posterior arches in contiguity to the tonsils; those of the pharynx being less frequently affected. There is an abnormal secretion of viscid mucus, clear or turbid, as may be, from all these structures, though, as a rule, not excessive in amount. The uvula is often swollen, or distended with serum, and its mucous membrane relaxed, so that it may lie on the base of the tongue, or on the posterior wall of the pharynx, or upon the laryngeal surface of the epiglottis, inducing an irritative tickling cough. Sometimes it appears as though pasted to one of the arches of the palate by the viscid secretion that covers it. In some cases the posterior arch of the palate is likewise distended with serum, so that the two folds appear like wings of a central portion, the body of the uvula, which no longer presents as a free and pendant structure.

Although more or less of the entire superficies of the throat may participate in the inflammation, the swelling is, in some instances, confined to the tonsils, and sometimes to one tonsil. The engorgement of the blood vessels of the tonsil excite, by pressure, probably, a condition of hyperæsthesia of the gland, which renders its entire surface exceedingly tender, and often very painful to the touch, and even to the contact of solid articles of nourishment in deglutition. If the tonsils are only superficially affected, they may, even when somewhat swollen, appear rather smaller than they really are, in contrast to the swelling of the palatine arches.

There is usually more or less feeling of heat and dryness in the parts, especially at first, with a moderate amount of dysphagia; the latter principally from the pain in swallowing, but sometimes, in part, from actual debility in the muscles of deglutition. There is usually some febrile movement, with acceleration of pulse and respiration. If the inflammatory action is at all intense, the local and constitutional symptoms soon increase in severity, the temperature of the skin rising to a marked degree, and the pulse registering, in the adult, from 100 to 120, and in some instances even 140 beats in the minute. With this, there will be pain in the back and limbs, sometimes severe, and increased by motion; as well as other symptoms of a nervous character.

In some cases the cervical glands become swollen and painful, but this is not frequent.

The disease usually completes its stages in from four or five to eight or ten days, with gradual subsidence of the inflammatory process back to the normal condition. Occasionally small-sized shallow erosions are formed at points in the epithelial layer, before retrogression commences, but this is by no means constant. When, as is often the case, but one side of the throat has been prominently affected, there will be great liability to similar involvement of the other side, after convalescence of a day or two; and if the patient is careless in exposing himself, the second attack may exceed the first one in severity. Caution in this regard is, therefore, highly important.

Deuteropathic or secondary sore throat occurs in extension of inflammations from contiguous parts, as the mouth, tongue, nose, larynx, etc.; also, as a rule, in the course of the acute exanthemata, scarlatina especially; occasionally in connection with various acute affections, typhoid fever, pneumonia, etc., and in many chronic affections also. The causes of the inflammation in the throat in these cases, when not due to slight exposure, as is only infrequently the case, are not well understood, and will not, therefore, be further referred to.

The Treatment of Superficial Sore Throat is very simple. Unless the case is so slight that no special medicinal treatment is advisable, the patient should be confined to a bed or a lounge to secure rest, a light coverlid being thrown over the body to equalize the heat of the surface. This will materially shorten the duration of the case, keep the symptoms in moderation, and restrain the liability to a termination in chronic sore throat; a result, often, of imprudence in exposure or employment during one or more acute attacks. An emetic is often of great service if a meal has been recently taken, something merely to empty the stomach and save the labors of digestion, inasmuch as the diet, throughout the attack, should be as unirritating and as digestible as possible. Mustard in water serves the purpose usually better than depressing emetics, as antimony, or even ipecac, or stimulating emetics, as the sulphates. As gentle a laxative as is judicious for the purpose, is indicated to facilitate the passage of matters already in the alimentary canal, and castor oil, magnesia, or rhubarb will often answer the purpose. If the patient is of a costive habit, saline purges may be more appropriate, and a drastic

in case of actual constipation. If the pain is great a small amount of morphia may be added to the aperient with advantage; and, if the pulse is frequent, a small amount of aconite also. The free use of demulcent drinks, and of bits of ice, when cold is agreeable, will soothe the pain in the throat, and perhaps repress excessive secretion; and sponging the entire surface of the body with acidulated or alcoholized tepid water will allay intense heat of the skin.

This, with restriction to a very light and easily digestible diet for a day or two, will usually comprise all the treatment required, the disease frequently subsiding within the periods indicated. Indeed, in some instances, the use of the emetic alone, with rest in the recumbent posture, will constitute the entire sum of active therapeutical measures required.

In severe cases, when the pulse is frequent, and the other symptoms persistent, the administration of the tincture of aconite root in doses of one, two, or three drops, at intervals of one, two, or three hours, as may seem most desirable in individual instances, will almost always yield satisfactory results; so much so, that its use may be discontinued, or at least be distributed between more lengthened intervals as soon as any marked effect has been produced in lowering the rate of the pulse; for the tendency of the disease is to prompt recovery and spontaneously, as soon as the more violent symptoms exhibit evidence of abatement.

The prognosis, therefore, is always favorable.

Patients who are subject to sore throat should wear silk or woolen under clothing, and avoid continuing in wet garments longer than is absolutely necessary, that is, during the exposure itself only.

You will notice that I have not mentioned local treatment, except incidentally in the recommendation of demulcent drinks, and the use of bits of ice in the mouth. This is because the affection, though local, rarely needs topical treatment.

Appropriate local treatment, when requisite, consists, first, in the use of astringent lozenges allowed to dissolve in the mouth; any astringent usually answering an equally good purpose. If the mucous membrane is much relaxed, the frequent propulsion upon it of sprays of diluted solutions of alum, carbolic acid, and such articles, constringes the parts, and usually relieves their uneasiness in a few hours. Tannin, chlorate of potassa, sulphate of copper, etc., are often used for this purpose. In the absence of a spray apparatus an ordinary syringe can be employed as a substitute, the piston being drawn out while there are only a few drops of fluid in the nozzle of the instrument, and then suddenly forced down so as to drive the fluid from the nozzle in the form of a coarse spray.

The local application, around the neck, of compresses wrung out of cold or tepid water, as may be most agreeable to the patient, and changed frequently, is often a source of great comfort.

When the uvula is elongated or œdematous, and irritates the parts with which it comes in contact, it often gives occasion to frequent movements of coughing and of swallowing. Sometimes it is partially drawn into the œsophagus with the alimentary bolus. This condition of uvula usually occurs rapidly. It is readily recognized, and almost as readily relieved by a few punctures, which give vent to the effused serum, or by truncating the enveloping mucous membrane at the extremity of the tip of the mass. It is never necessary to excise the organ. Sometimes the entire uvula is enlarged from hemorrhagic stasis, and a few drops of blood may even exude to the surface. This condition is readily relieved by scarification of the mucous membrane.

A variety of common sore-throat characterized by serous infiltration into the submucous tissue of the pharynx, *angina pharyngea œdematosa*, is sometimes observed. It usually appears suddenly; and this circumstance, with the unusual amount of œdematous swelling impeding deglutition and respiration, more or less, distinguishes it from the more ordinary forms of catarrhal sore throat. It is not a serious affection; usually subsiding in about a week or ten days. It is rarely that any special therapeutic interference is indicated, the ordinary treatment for mild sore throat being adequate.

The tonsils rarely occasion any trouble in superficial sore throat, but when they do, the same treatment is required as that adopted in that form of sore throat to which I now invite your attention.

### Phlegmonous Sore Throat.

*Deep-seated sore throat; tonsillitis; quinsy; amygdalitis; angina tonsillaris, angina phlegmonosa*, etc.

Phlegmonous Sore Throat exhibits a higher

grade of inflammatory action than that already discussed, and involves the submucous structures as well as the mucous membrane. Various changes take place in these tissues; abscess not infrequently, and that diffuse sometimes, in patients of enfeebled constitution, but more frequently circumscribed in sthenic cases; sometimes single, sometimes multiple, sometimes superficial, sometimes deep-seated or concealed. The tendency of the disease is to termination by suppuration or by abscess, though it often terminates in resolution spontaneously, and still more frequently under efficient treatment.

One variety of the disease is essentially a deep-seated pharyngitis, the inflammatory process involving the sub-mucous tissues especially, and exciting infiltration into them. It almost always progresses to suppuration, and the pus, uncircumscribed frequently, sometimes extends downward along the œsophagus, into which the abscess may be discharged, with a result of permanent stricture from the subsequent cicatrization. In other instances the infiltration into the connective tissue becomes rapidly purulent under acute phenomena of fever. The pus may gravitate so as to exercise direct pressure upon the upper air-passages, or block up the entrance into the larynx by the mere tumefaction of the pharynx, death resulting in from three to four days, and sometimes suddenly. The prognosis in this variety, therefore, is very unfavorable.

In the more frequent variety of phlegmonous sore throat the tonsils are affected to a greater degree than the contiguous structures; hence the disease is usually designated as tonsillitis. It is less frequent in patients with normal, than in those with morbid tonsils.

Phlegmonous sore throat is often ushered in by a distinct chill, usually followed, within twenty-four hours, by fever and its attendant general phenomena. Pain in the throat with a sensation of constriction usually appears at an early period, and gradually increases in severity, interfering more and more with deglutition. All the structures of the throat usually present evidence of inflammatory action on inspection, but the tonsils in particular; sometimes both tonsils in an equal degree, sometimes one much more than the other, and often, one gland alone being affected. The inflamed tonsil is discolored, swollen, and irregular in outline, presenting somewhat different appearances according to the peculiar tissue of the tonsil in which the inflammatory process is most active. This may be the parenchymatous or glandular structure itself, the secretory ducts of the follicles, or the connective tissue, the mucous membrane always participating more or less. When the ducts are affected, a whitish or yellowish creamy secretion occupies the surface of the tonsil more or less irregularly; in some instances adherent to the orifices of the ducts. The swelling involves the arches of the palate and its wings also, forming an angry-looking tumor. The swollen tonsil, in many instances, reaches the middle line of the pharynx. Occasionally the swollen tonsil encroaches on the pharyngeal orifice of the Eustachian tube, and may thus occasion noises in the ear and even hardness of hearing. When the posterior arch of the palate is inflamed and put on the stretch, the pain is continuous into the ears. Sometimes there is considerable œdematous infiltration into the palate and the uvula, and even into the constrictor muscles of the pharynx. Occasionally, too, there is œdema of the larynx, likewise, to a greater or less extent. The nature of the secretion varies; it is sometimes semi-fluid, sometimes membraniform; sometimes hemorrhagic; sometimes moist and viscid; sometimes very dry. The submaxillary glands often become engorged; and this tumefaction is not infrequently incorrectly referred to the tonsil itself rather than to the accompanying inflammation of the palate with which these glands are more directly connected anatomically. The tonsil is at a considerable distance from the inflamed glands, and cannot, except under unusual circumstances, be felt from the exterior.

As the disease progresses, the pain and local distress become intense in severe cases. In some instances deglutition becomes impossible; and in others, so painful that every effort at swallowing will be avoided; and the patient will lean forward, or to one side, so as to favor the escape from the mouth of the increased saliva and other products of secretion. The jaws may be so swollen that the patient can hardly open the mouth widely enough to permit inspection of the parts. Sometimes the pain and swelling are so great that the jaws cannot be separated. The tongue is swollen and covered with a thick, dingy deposit. Taste is impaired. The breath is offensive. There is more or less difficulty in respiration. The voice is thick or muffled, and often nasal in tone; and there is

great difficulty in articulation. As the disease advances, headache supervenes; sleep becomes difficult or impossible, sometimes from the mechanical impediment to respiration, and sometimes from pure nervous disturbance.

This form of inflammatory sore throat sometimes subsides by resolution, all the structures gradually resuming their normal conditions; but more frequently it proceeds to suppuration. One or more abscesses form, more or less superficially, which, if left to themselves, eventually rupture spontaneously. The progress of a superficial abscess can often be watched by inspection, and the point of rupture be detected by the sense of fluctuation. The deeper-seated abscesses cannot be detected before rupture, as a rule, unless they are unexpectedly discharged during incision into the parts, as a therapeutic measure. The abscess frequently ruptures at night, and its contents are then not unfrequently swallowed, sometimes unconsciously. Sometimes it ruptures during a fit of vomiting. Whenever or however it opens, relief is usually immediate, and subsidence of inflammation prompt. Cases of suffocation have been recorded from passage of the contents into the larynx, usually by spontaneous rupture during sleep; but they are altogether exceptional.

The attack, when it runs through all its stages, usually continues for ten days.

THE PROGNOSIS is favorable.

THE TREATMENT OF this disease must be based upon antiphlogistic principles; but it is not advisable, without urgent reason for it, to employ venesection or even leeching, on account of the difficulty in administering food to repair the loss of blood, and to sustain the vital forces. An emetic will render efficient service early in the attack, not only to the system generally, but to the local affection also; especially if the stomach be loaded with undigested food. The mechanism of the act of vomiting may compress the muscles of the palate and pharynx upon the tonsil, and thus favor the onward flow of some of the blood with which it is engorged. A non-depressing emetic, such as mustard, is the most appropriate. A saline laxative may be administered every three or four hours for a day or so, or until an obviously favorable effect has been maintained for some hours, each dose containing a drop or two of the tincture of aconite root, with the addition of a suitable amount of morphia if indicated by the pain. The inhalation of steam from water alone, or from water impregnated with such remedies as hops, chamomile flowers, or the watery extracts of opium, belladonna, or conium, the camphorated tincture of opium, or the compound tincture of benzoin, will soothe the parts a great deal. So also will the frequent projection of sprays of warm water, simple, or slightly aromatically medicated with cologne or toilet vinegar; which, when agreeable to the patient, as they almost always are, can be repeated as frequently as desired. The subcutaneous injection of morphia into the swollen structures themselves, or into the swollen lymphatic glands, or the submaxillary region, is said by some authorities (Schrœtter) to yield excellent results; but I cannot speak of this practice from experience.

Warm and moist applications externally give considerable relief, especially when the cervical glands are tender and swollen. They should be renewed frequently, so as to maintain equable warmth and moisture.

Gargles are not of much value; principally because their proper use entails too much pain. Medicated sprays, however, propelled upon the parts, are very efficient local applications. Aqueous solutions are preferable, containing tolerably large quantities (say twenty grains or more to the ounce) of alum, tannin, sulphate of zinc, or what I have seen most efficient, sulphate of copper; care being taken to guard against the deglutition of any of these solutions. They may be used by the syringe, in the absence of "spray machines." Powders of alum, tannin, krameria, etc., in various dilution with lycopodium, liquorice, bismuth and the like, may be blown upon the parts by means of a tube of some kind. The topical application of nitrate of silver in stick, or by sponge, mop, or brush, is very rarely practicable in a satisfactory manner, and is just as often unnecessary. Nothing which will excite movements of gagging, hawking, or expectoration, should be done without due cause for it.

If the tonsils are very much inflamed, and the suffering therefrom intense, great relief will follow efficient scarification or incision, the bleeding being encouraged by mouthfuls of warm water. A narrow sharp-pointed bistoury, with its edge turned toward the cavity of the pharynx, may be thrust into the tonsil so as to cut it transversely towards its free surface, in its withdrawal, and this may be done at two or three points in succession. The relief to pain and tension is often immediate, and the facilita-

ted circulation in the parts promotes the prompt resolution of the inflammatory process. Sometimes these incisions open abscesses in the interior of the tonsil, the existence of which, though conjecturable, could not have been otherwise determined. When suppuration is already evident, there can be no doubt as to the propriety of incising the abscess, and this should be practised at the most prominent accessible point, care being taken to keep the edge of the knife directed toward the interior of the mouth, so as to prevent injury from untoward movements of patient or operator. For like reason, the knife blade should be protected by a covering beyond the distance from the point which may be required for penetration. The abscess being discharged, recovery is prompt, unless there are other abscesses; in which case it will be delayed until they have all run through their course.

The general treatment is similar to that employed for simple sore throat. The general strength must be conserved as much as possible; and when liquid food cannot be swallowed, nourishment by enema is indicated. Efforts of deglutition should be spared whenever practicable; and, in this view, medicines which can be administered by inhalation, by enema, or by hypodermic injection should be selected in preference.

When the affection has been limited to one side, the other side not infrequently becomes affected during convalescence or shortly after. When this is imminent, the administration of tonics and stimulants is indicated to maintain the forces of the patient during the second and sometimes severer attack.

### Ulcerous Sore Throat

*Phagedenic sore throat, malignant sore throat, gangrenous sore throat; angina ulcerosa, angina gangrenosa, angina maligna; tonsillitis maligna*, etc.

The term Ulcerous Sore Throat has no reference to the superficial ulcerations of the mucous membrane in ordinary forms of sore throat; but, on the contrary, to a special, and, apparently, inevitable ulceration of tissue which forms the characteristic local feature of the disease. It is not frequent. Moderately severe, only, in some cases, it exhibits from its commencement, in others, a tendency to phagedenic ulceration of a malignant character, resulting in gangrenous obstruction of tissue over a large extent of surface, even involving the blood vessels, and thus occasioning alarming, and sometimes fatal hemorrhage; being attendant upon that low general systemic condition denominated typhoid. It sometimes follows scarlatina, and is occasionally present in diphtheritis. Sometimes it supervenes upon measles, small-pox, dysentery, and typhoid fever. It also occurs in syphilitic sore throat, and sometimes in epithelial cancer of the throat; in these instances beginning in the palate usually, and thence extending to the tonsils and the pharynx. At times it occurs in cases of tuberculous phthisis. It is rarely a sequel of simple inflammatory sore throat, though sometimes preceded by common membranous sore throat. In short, it may ensue upon any form of sore throat.

It is often accompanied by an irregular, erythematous eruption on the skin. There is a low type of fever, with glassy eye and a haggard expression of countenance. The pain is not severe as a rule. The dysphagia is slight. The tongue supports a dark creamy, pultaceous secretion; similar masses being occasionally seen on other mucous structures of the mouth and throat. The tonsils are swollen and darkly congested. The palate and uvula become swollen and œdematous, and the pharynx, too, is often swollen At an early period, dark ashy-colored ulcers with excavated edges are to be observed on the tonsils and contiguous surfaces. These soon slough out with more or less of the surrounding tissue; and the ulcers left become covered with a somewhat continuous, sanious, ichorous, fetid secretion. The cervical glands become swollen and tender. Extension to the pharynx and nares is not unfrequent; that to the larynx is rare. The ulceration extends rapidly, destroying those tissues which are subjected to its ravages. Occasionally the process is limited to the tonsil. Cases are on record of fatal hemorrhage from penetration of the carotid artery.

The secretions and excretions escape by mouth and nose; and they are exceedingly fetid. Portions, too, are doubtless swallowed. Diarrhœa frequently occurs, and is soon followed by death.

The Diagnosis, in the early stages, is only determinable by the depressed state of the general system, the dark appearance of the structures affected, and the absence of severe

pain. When the case has made any progress, its characteristic ulcerous appearance leaves no doubt as to the diagnosis.

In some cases the ulcerous process begins upon the posterior surface of the soft palate, and great ravages are committed before its peculiar character has been detected; the inflammatory evidences anteriorly being usually such as indicate imminent ulceration on that surface without directing special attention to the condition of the opposite surface. Inspection of the posterior surface of the palate by means of the rhinoscopic mirror is therefore advisable in every severe case in which ulceration might be suspected.

The Prognosis is unfavorable, although recovery is not infrequent. Death may take place by syncope, coma, asthenia, or hemorrhage.

The Treatment of this form of sore throat must be of the most active and supporting character; such, in few words, as is adopted for the arrest of gangrene in any portion of the body. Eggs, milk, cream and nutritious soups are to be administered as freely as the patient will take them; and quinine in large doses, tincture of the chloride of iron, and brandy in no stinted measure, are indicated. As there is little difficulty in swallowing usually, a sufficient amount of nourishment can almost always be taken by the mouth.

The topical treatment is very important. While the disease is superficial, bromine, muriatic or nitric acid, acid nitrate of mercury, caustic potassa, etc., may be employed so as to destroy the diseased tissue promptly, in the hope of exposing a healthy surface beneath, which will heal up by granulations. When this is unsuccessful, or too dangerous in cases where the blood-vessels are probably involved, we can only palliate the symptoms by weak solutions of acids and astringents, to which opium may be added; and must depend on constitutional measures for restraining the process. Washes and sprays of chlorate of potassa, and the like, as employed in common sore throat, are often agreeable to the patient; but they have no direct therapeutic influence on the progress of the disease. If the ulceration is extending into the vicinity of the great vessels of the neck, measures for compression should be at hand for the use of the nurse; and instruments accessible with which to secure the carotid artery when called to the case in the contingent emergency.

When phagedenic cases recover, a horrible amount of deformity often remains to mark the ravages of the ulcerous process. During cicatrization the positions of contiguous parts become very much altered. The palate may become adherent by its sides, and by more or less of its posterior surface, to the pharynx, in some instances amounting to complete occlusion of the nasal portion of the pharynx. These conditions demand surgical operation, and are very difficult to overcome.

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# LECTURE II.

Gentlemen:—To-day I invite your attention, in the first place, to a frequent form of sore throat often mistaken for diphtheria, but which, unlike diphtheria, is rarely or never fatal in itself; the tendency being to recovery, and death taking place only under very exceptional circumstances. Its ready cure, under almost any treatment, or even without treatment, accounts for much of the success attributed to indifferent remedies ostensibly employed in the treatment of diphtheria; so that discrimination is, therefore, of the greatest importance in cases of doubt, such as occur when diphtheria is prevalent.

**Simple or Common Membranous Sore Throat.**

*Non-malignant membranous sore throat, herpetic sore throat, aphthous sore throat; angina membranacea, angina herpetiformis; herpes pharyngea, herpes gutturalis; angina couenneuse commune* (Fr.).

Membranous Sore Throat is characterized by the eventual exudation of a fibrinous deposit, which coagulates on the surface of the mucous membrane into a pellicle or pseudo-membrane. It is not infrequent, and occurs at all seasons of the year. Its tendency is always to recovery,

except in rare instances, in which the larynx is simultaneously affected, when the danger arises from mechanical obstruction. Common membranous sore throat is often contracted by susceptible persons during the prevalence of diphtheria, and may then become a starting point for that disease. Its most frequent immediate cause is exposure to cold while the body is overheated or in active perspiration.

The peculiar manifestation of the affection is preceded for two or three days by the symptoms of ordinary sore throat, usually supervening upon chill with febrile reaction, and subsequent symptoms of general systemic disturbance.

The throat is usually affected on one side only, the corresponding submaxillary, or cervical lymphatic glands, when at all affected, becoming involved to a moderate degree only. Deglutition is often difficult and painful, and the parts feel dry and hot, the sensation often extending towards the ear, in some instances into the nasal passages, and occasionally into the larynx.

The tonsils are swollen and become covered with a whitish or yellowish-white pultaceous exudation or deposit, but slightly adherent to the mucous membrane. In addition there is sometimes an accumulation of viscid mucus, more or less ropy, and more or less turbid in appearance. The soft palate, and often its anterior arches, over the swollen tonsils especially, has a fissured or corrugated appearance in many instances, and the membranous coating is distributed more or less irregularly upon it, having often much the appearance of detached layers of epithelium; and when removed by artificial means, at a comparatively early period after its appearance, often reveals an eroded and sometimes slightly hemorrhagic surface. At a later date the mucous membrane then appears normal on the removal of the deposit, the erosions having healed up meanwhile. The hard palate is rarely ever covered by the deposit, nor the pharynx either, as a rule.

If the throat is examined within a few hours after the commencement of the disease, its initial form may be detected on the palate and uvula, sometimes on the tonsils, and less frequently on the pharynx, in the form of small vesicles, the size of millet seeds or somewhat larger, isolated here and there, or in groups, with more or less turbid contents, and surrounded by zones of inflammation. Occasionally, after a life of a day or two, these vesicles disappear without traces, in which case the membranous deposit will not be formed. Most frequently, however, these vesicles rupture very soon, leaving small ulcers, which become covered almost immediately with a grayish-white plastic exudation. This exudation spreads over the surrounding mucous membrane, and coalesces into similar patches which have commenced in the same way at other portions of the surface. It is very rare, however, that a case is seen at a sufficiently early period to recognize the vesicular nature of the disease.

In many cases a herpetic eruption occupies the corners of the mouth at the same time, or some part of the inner surface of the lips, cheek or tongue, or even the face; under which circumstances there can be no doubt as to the nature of the diagnosis.

Other ulcerated mucous surfaces often become covered with this deposit during an attack of membranous sore throat, and even cutaneous ulcers also; a similarity presenting in this respect to the analogous phenomena in diphtheria, but altogether independent of any toxic evidence of that disease. The general subjective symptoms are those of ordinary catarrhal sore throat.

The prognosis is favorable in common membranous sore throat, recovery being spontaneous, in the majority of cases, in from a week to ten days. It is occasionally fatal, however, chiefly in children, from extension of the pseudo-membrane into the air-passages; death taking place mechanically, by asphyxia.

The Treatment of common membranous sore throat is very simple. Laxatives, anodynes, and demulcents are often indicated. The general treatment, therefore, is similar to that in catarrhal sore throat. Local treatment is rarely requisite, and when called for, can usually be limited to applications of alum, borax, and mild astringents in solution, by brush, syringe, or spray apparatus.

The duration of this disease is not usually more than a week or ten days, as already stated; but in some individuals there appears to be a constitutional proclivity to recurrence or continuance of its peculiar manifestations, extending, with more or less exacerbation and remission, over periods varying from a few weeks to a number of months. Under such circum-

stances more active treatment is demanded locally, and more vigorous therapeutic interference systemically. The dilute acids frequently applied, *i.e.* every day or so, seem to afford more satisfactory results locally than the ordinary astringent and caustic salts. The internal use of iron and cinchona as tonics, sometimes of opium, not as a narcotic, however, but rather as a special stimulant in small doses, the use of a highly nutritious diet, and the avoidance of unnecessary exposure and exercise, and similar corroborant measures, are indicated to overcome the disposition to its continuance or recurrence.

Common membranous sore throat may become the starting point of malignant or phagedenic sore throat under debilitated conditions of system. The treatment for ulcerous sore throat is then prominently indicated. It may also invite an attack of diphtheria during the prevalence of that disease, under which circumstances there may reasonably be considerable doubt as to the diagnosis. In case such a doubt should be entertained by the practitioner, his most prudent plan would be to treat the case for diphtheria. An unnecessary activity would do no material injury in a case of common membranous sore throat; and if the sequel should determine the case to be one of diphtheria, it would not have suffered neglect under an impression that it was a much less serious disorder. When these doubtful cases are cured, as they almost always are, care should be taken against recommending for diphtheria any inefficient remedy, during the employment of which a case of common membranous sore throat has spontaneously recovered.

A membranous sore throat attends some cases of phthisis and syphilis in their latest stages; but this subject will not be elaborated here.

### The Sore Throats of the Febrile Exanthemata.

Small-pox, measles, and scarlatina are more or less regularly attended by sore throat, which may be catarrhal, phlegmonous, ulcerous or membranous.

The Sore Throat of Small-pox is due to the development of an eruption upon the mucous membrane similar to that which appears upon the skin. It is always, or almost always present in ordinary cases, but less frequently in hemorrhagic cases, or in varioloid. The eruption, which often appears somewhat earlier than upon the skin, occupies the inside of the cheeks, the palate, uvula, and pharynx, and sometimes the larynx also. The maturation of the pustules and consequent ulceration occur more rapidly than in the skin; and with this, there is more or less purulent infiltration of the submucous connective tissues.

The appearance of the disease in the throat is usually indicated by excessive salivation; the secretion increasing in quantity, and becoming more viscid and offensive. In confluent cases the symptoms are more severe; the salivation may amount to one or two pints in the twenty-four hours; thirst becomes intense; deglutition difficult; and expectoration painful. The involvement of the larynx is indicated by hoarseness, and sometimes more or less dyspnœa from œdema in the aryteno-epiglottic folds, or other structures, conditions which, if not averted, sometimes prove fatal by suffocation. Laryngoscopic examination reveals the inflammatory condition in these structures. In the exfoliation of the mucous membrane, again, mechanical obstruction to respiration may result in asphyxia.

Permanent hoarseness or other alteration of voice may result from the laryngitis of small-pox.

The ordinary phenomena are those already detailed, and the treatment is the same as that indicated for catarrhal sore throat generally. Supporting treatment is required when the discharges of saliva, pus, etc., are copious. In cases of dyspnœa threatening suffocation, tracheotomy may be called for as a means of averting impending death.

The Sore Throat of Measles is also a constant attendant upon the exanthem. It is a catarrhal inflammation affecting the air-passages from nostrils to bronchi, rather than the food passages, and is primarily due to an eruption on the mucous membrane, similar to that on the skin. Its severity is often in direct ratio with the severity of the general affection. Evidence of the eruption will usually be found on the palate, a day, or even two days, in some cases, before it is developed upon the skin. These disappear in the course of a few days, though sometimes, in bad cases, a fibrinous exudation is thrown out upon the palate, arches, or tonsils, or the upper portion of the larynx.

At other times abscess and ulceration take place, chiefly in the larynx; and this organ, in fact, seems to suffer more than the other structures; and the catarrhal infiltrations may become organized and produce chronic hoarseness from that cause, or they may act as points of departure for the development of morbid growths.

The general symptoms would be those of a severe form of catarrhal sore throat, and the treatment would be conducted on the same principle as for that affection.

The Sore Throat of Scarlatina.—The sore throat of scarlatina has given the name *anginose* to one of its varieties, and in many instances it forms the chief source of danger in the disease. It is often exceedingly severe in character, and apt to leave permanent injury, especially of the Eustachian tube and middle ear. The palate, tonsils and pharynx suffer, rather than the nasal passages and larynx.

The local manifestations appear upon the mucous membranes a day or two in advance of their appearance on the skin, the mucous membrane of the palate, tonsils, and pharynx being deeply congested, uniformly or in patches; and sometimes supporting slight papulous elevations. The palate and tonsils soon become swollen, and in the course of a day or two the tonsils become covered with an opalescent or milky deposit, consisting chiefly of detached epithelial scales commingled with an excessive secretion of viscid mucus. The production of this coating has given rise, in part, to the idea of analogy between scarlatina and diphtheria entertained by some observers. Their occasional prevalence at the same time has also given color to this view. At the same time it must not be forgotten by those who reject this view, that during the prevalence of diphtheria the ordinary sore throat of scarlatina may become diphtheritic, without furnishing evidence of that character as an essential element of the scarlatina itself.

The subjective symptoms are those of ordinary sore throat; and these become more and more severe as the disease progresses. The lymphatic glands, at the angle of the jaw, become swollen and painful. This sometimes extends to the deep-seated glands. Sometimes there is serous or sero-fibrinous effusion into the submucous connective tissue, impeding respiration and deglutition; the latter especially, so that fluids taken into the mouth often run off by the nose. As the cutaneous symptoms abate, the throat symptoms subside likewise. The secretion is cast off from the tonsils, and sometimes desquamation of epithelium from the tongue, palate, and pharynx occurs, just as desquamation of epidermis from the skin.

In the anginose variety proper, of scarlatina, the symptoms of disease in the throat are much more severe than those already described. The hue of the palate, tonsils, and pharynx is more dusky; the pseudo-membranous deposit is of a dirtier white, an ash, or even a yellow color. The secretion is less apt to be limited to the tonsils; accumulating rather on the palate and palatine arches, and upon the posterior wall of the pharynx. The patches are soft, and resemble the patches that gather on the surface of foul ulcers; they are readily removable, and when removed, are sometimes seen to have really covered ulcerated mucous membrane, and even gangrenous sloughs, in some instances. The general swelling of the parts is much greater than in simple scarlatina; that of the cervical and submaxillary glands being so great and so painful, in some instances, as to prevent the opening of the mouth sufficiently to expose the parts to inspection. A viscid and turbid secretion accumulates in the mouth; and this is expectorated with difficulty. In some cases the nasal secretions dessicate into firm crusts, which obstruct nasal respiration and compel breathing through the mouth. Sometimes purulent inflammation is thus excited, and an acrid, offensive, excoriating secretion is discharged from the nostrils, and from the mouth also, in some instances.

In malignant cases of scarlatina, the mucous membrane is very much swollen and very darkly congested; and ulceration soon takes place, frequently attended with gangrene of the tissue; the pseudo-membranous deposit being dark, almost to blackness, from intermingling with extravasated blood. The discharges are sanious and offensive, and not unfrequently contain shreds of the destroyed tissues.

The tumefaction at the angles of the jaws extends over the neck, the tumefaction internally increasing at the same time; respiration becoming impeded in some instances so as to threaten suffocation, a condition in which tracheotomy may be demanded. Œdema of the uvula and soft palate occurs, and with it, sometimes, œdema of the epiglottis and arytenoepiglottic folds. These conditions likewise threaten suffocation, and may necessitate tracheotomy.

The Special Treatment of the case does not vary from that for ordinary inflammatory sore throat. Severe topical measures are rarely indicated. Acidulated sprays to the parts are grateful and soothing; and weak solutions of alum are useful as detergents. These sprays may be applied with benefit as frequently as called for by the patient.

### Erysipelatous Sore Throat.

Erysipelatous Sore Throat is infrequent. It occurs, usually, in connection with erysipelas of the head, face and neck; sometimes as an extension from these surfaces; sometimes appearing primarily in the throat, and thence spreading to the exterior. Sometimes there is an interchange between external erysipelas and erysipelas of the throat in the form of a metastasis. When the throat is seriously involved, there is danger of extension of the disease into the larynx; a result apt to be attended with œdema, and thus threatening death by gradual suffocation or asphyxia.

Erysipelas of the throat, when idiopathic, begins in the guise of an ordinary inflammation, but there is not a very great amount of swelling, and the parts are of a very dusky-red, sometimes lustrous hue. There is more or less inability to swallow; but this is not due to swelling or pain, as in ordinary inflammations of the throat, but from actual paralysis of the muscles of deglutition, which do not contract as usual upon contact with foreign substances. Regurgitation takes place through the mouth when the pharyngeal muscles alone are in this condition, and through nose and mouth when the muscles of the palate are in a similar condition. The general symptoms are those that attend the usual manifestations of external erysipelas, only the febrile phenomena, pain at the epigastrium, nausea, and so on, are more severe.

The duration of the disease varies from forty-eight hours to a week. In cases fatal by œdema of the larynx or other cause, frequently undiscernible, death sometimes occurs within two or three days from the commencement of the attack.

The inflammation of the parts usually subsides by resolution. Occasionally, however, it is followed by abscess, but this is rare, and I have seen but one instance of it.

The Prognosis, as a rule, is not favorable.

The Treatment consists in the administration, in part by enema, if necessary, of large doses of quinine, tincture of the chloride of iron, brandy and diffusible stimulants; with the greatest amount of the most nutritious food procurable that the patient can be induced to take, by mouth or rectum, as the case may be. The local application of a strong solution of nitrate of silver (60 grains to the ounce), so as to include some of the unaffected structures, if possible, seems to afford the best means of controlling the local affection.